

SAFETY DATA SHEET



Product Name: BioBlend® XD 26242 BioPolymer
Product No: BioBlend® XD 26242
Revision Date: 17 October 2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	BioBlend® XD 26242 BioPolymer
Common Names	BioBlend® XD
Product Use	Resin for injection molding
Manufacturer	BiologiQ Inc. 3834 Professional Way Idaho Falls, ID 83402
Emergency Number	1-208-357-9650

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification and Label Elements

Category	Combustible Dust (OSHA Defined)
Label Content	
Pictogram	Not required
Signal word	WARNING
Hazardous warnings	May form combustible dust concentrations in air.
Hazardous prevention measures	Not required

Other Hazards

Physical / Chemical Hazards

Combustible Dust	If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
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Health Hazards

Eye	H320: Causes eye irritation. Particles may cause mechanical irritation.
Skin Contact	H316: Causes skin irritation. Only when hot.
Inhalation	Low order of toxicity.
Ingestion	No hazard in normal industrial use.

Environmental Hazards

No significant hazard

NFPA Hazard ID	Health: 1	Flammability: 1	Reactivity: 0
HMIS Hazard ID	Health: 1	Flammability: 1	Reactivity: 0

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

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Name	CAS #	Concentration	GHS Hazard Codes
NuPlastiQ® CG BioPolymer		-	N/A
Acrylonitrile-Butadiene-Styrene copolymer	9003-56-9	-	N/A
Additives		< 1%	N/A
Compatibilizer		-	N/A
Additives		<0.2%	N/A
Impact Modifier		-	N/A

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provision of paragraph (i).

SECTION 4. FIRST-AID MEASURES

Eye Contact	Flush eyes with large amounts of water until irritation stops. Seek medical attention if irritation persists.
Skin Contact	Wash with soap and water. For hot product: immediately immerse in or flush affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention.
Inhalation	Remove to fresh air.
Ingestion	Not a probable route of exposure. However, in case of accidental ingestion, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing Media	Dry chemical; CO ₂ ; Water fog; Foam
Unsuitable Extinguishing Media	No applicable data available.
Specific Hazards	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not permit dust to accumulate.
Protective Equipment	Self-contained breathing apparatus.

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Decomposition Products	Emits toxic fumes under fire conditions.	
Flammability Properties		
Flash Point	No data	
Flammability Limits	LEL: N/D	UEL: N/D
Autoignition Temperature	N/A	

SECTION 6. ACCIDENTAL RELEASE MEASURES

Safeguards	Avoid the generation or accumulation of dust in the air. Good housekeeping practices should be used to avoid dust build up. Spilled material is a slipping hazard on hard surfaces.
Spill Clean	Sweep or scoop up pellets and remove. Spills of fine material should be cleaned using gentle sweeping or vacuuming. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.
Environmental Precautions	Do not discharge to streams, ponds, lakes or sewers.
Disposal Method	In accordance with existing local/state/federal regulations.

SECTION 7. HANDLING AND STORAGE

Handling	Minimize dust generation and accumulation. Institute routine housecleaning to ensure dust does not accumulate on surfaces. Pneumatic conveying and other mechanical handling operations can generate combustible dust. Avoid significant deposits of material which may become airborne and form combustible dust clouds. Handling and processing operations should be conducted in accordance with best practices (e.g. NFPA-654).
Loading/Unloading Temperature	[Ambient]
Transport Temperature	[Ambient]
Transport Pressure	[Ambient]
Storage	Store in cool dry place with adequate ventilation. Do not store near heating source.
Storage Temperature	[Ambient]

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Storage Pressure	[Ambient]
Suitable Containers/Packing	Bulk Containers, Bags. Store sealed to prevent moisture absorption and decomposition.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values for materials that can be formed when handling this product

When hot processing this material, use local and/or general exhaust ventilation to maintain the concentration of vapors and fumes below exposure limits. Local exhaust ventilation is preferred. Use static controls. Static charges can cause explosions in solvent and dust laden atmospheres. Follow processing recommendations on the product data sheet.

For dusty conditions, OSHA recommends for particulates not otherwise regulated an 8-hour TWA of 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction); ACGIH recommends for insoluble and poorly soluble particles not otherwise specified an 8-hour TWA of 10 mg/m³ (inhalable particles), 3 mg/m³ (respirable particles).

Silica, amorphous; TWA 0.8 mg/m³, 20 mppcf

Talc; TWA 0.1 mg/m³ respirable, 20 mppcf, 2.4 mppcf respirable.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Under recommended processing conditions, this material has been shown to emit elevated concentrations of glycerol mist (CAS 56-81-5). This may cause smoke and possible odor during processing. OSHA does not list Glycerol mist as a hazardous material with specific exposure limits.

Engineering Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

Processors of this product should insure that adequate ventilation is provided to control and minimize exposure. Dust control equipment, exhaust ventilation, and material transport systems involved in handling of this product

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	should be designed and maintained to minimize dust generation and accumulation.
Personal Protection	
Hand Protection	If product is hot, thermally protective, chemical resistant gloves are recommended. If contact with forearms is likely, a long sleeve shirt or gauntlet style gloves is recommended.
Eye Protection	If contact with hot material is likely, safety glasses with side shields are recommended.
Skin and Body Protection	If there is a potential for contact with hot product, thermally protective clothing and footwear is recommended.
Respiratory Protection	If engineering controls do not maintain acceptable airborne contaminate levels, an approved respirator may be appropriate. Typical type: Particulate air-purifying respirator approved for dust / oil mist is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

General Information / Appearance

Physical State	Solid
Form	Resin Pellets
Type	Mixture
Color	Opaque, off-white to tan
Odor	N/D
Odor Threshold	No data available

Important Health, Safety, and Environmental Information

Relative Density	N/A
pH as is	N/A
pH in 1% Solution	N/A
Boiling Point	N/A
Partition Coefficient	N/A
Specific Gravity	N/D
Evaporation Rate	N/A
Vapor Pressure (mm Hg)	N/A
Vapor Density	N/A
Volatiles	N/A
Volatile Organic Compounds	N/A

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Auto ignition Temperature	N/A
Flammability (solid, gas)	May form combustible dust concentrations in air.
Flash Point	N/D
Upper Explosion Limit	N/D
Lower Explosion Limit	N/D
Decomposition Temperature	N/D
Oxidizing Properties	N/A
Viscosity	N/A
Other Information	
Freezing Point	N/A
Melting Temperature	N/A
Molecular Weight	>10,000
Solubility in Water	Low

SECTION 10. STABILITY AND REACTIVITY

Reactivity	0 = Insignificant
Stability	Material is stable under normal conditions.
Conditions to Avoid	Avoid elevated temperatures for prolonged periods of time
Materials to Avoid	Strong acid, alkali, and oxidizing agents.
Hazardous Decomposition Products	This product does not undergo spontaneous decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Toxicology

Acute Toxicity	Proprietary Additive 1: Acute oral toxicity: LD50(rat) > 5000mg/kg Acute inhalation toxicity: LC50(rat)> 0.14mg/L Acute dermal toxicity: LD50(rabbit) > 5000mg/kg
	Proprietary Additive 2: Acute oral toxicity: LD50(rat) > 5000mg/kg Acute inhalation toxicity: LC50(rat,4h)> 1951mg/L Acute dermal toxicity: LD50(rabbit) > 3160mg/kg

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Skin Corrosion / Irritation	Proprietary Additive 1: Skin irritation: not irritating. Proprietary Additive 2: Skin irritation: not irritating.
Inhalation Toxicity	N/D
Carcinogenicity	Proprietary Additive 1: Negative. Proprietary Additive 2: NOEC>1000Pppm.
Reproductive Toxicity	Proprietary Additive 1: Toxicity to reproduction: NOAEL(rat) = 497 mg/kg bw/day Developmental toxicity / teratogenicity: NOAEL(mouse) = 1340 mg/kg bw/day Proprietary Additive 2: Toxicity to reproduction: NOAEL(rat,F1) >1000 ppm bw/day NOAEL(rat,F2) >1000 ppm bw/day Developmental toxicity / teratogenicity: NOAEL(mouse) = 1000 mg/kg bw/day(maternal) LOAEL(mouse) = 500 mg/kg bw/day(developmental) NOAEL(mouse) = 1000 mg/kg bw/day(teratogenicity)
Specific target organ toxicity (repeated exposure):	Proprietary Additive 1: Oral: NOAEL(rat) = 497 mg/kg bw/day Dermal: NOAEL(rabbit) = 10000 mg/kg bw/day Inhalation: NOAEC<1.3mg/m3 ; LOAEC=5.9 mg/m3 Proprietary Additive 2: Oral: NOAEL(rat) = 3000 ppm
Eye Irritation	Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.
Chronic (Long-Term) Effects of Exposure	

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Route of Entry	Eye, skin, inhalation, ingestion
Effects of chronic exposure	N/D
Target Organs	N/D
Special Health Effects	N/D
Other Information	
Dust	May be irritating to the eyes and respiratory tract.
Additives	Additives are encapsulated in the product and are not expected to be released under normal processing conditions of foreseeable emergency.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Data for Component: Acrylonitrile-Butadiene-Styrene copolymer (9003-56-9)

Short-term aquatic toxicity

Based on available data on the constituents the classification criteria are not met

LC(50)mixture = 5.78 mg/l (additivity and summation method, toxicity information available for 92,5 % of the mixture)

Long-term aquatic toxicity

Based on available data on the constituents the classification criteria are met and the mixture is therefore classified as Aquatic Chronic 1

NOECmixture = 0.0079 mg/l (additivity and summation method, toxicity information available for 78 % of the mixture)

Data for Component: Compatibilizer

Proprietary Additive 1:
Fish (Danio rerio): LL0(96h) = 10000mg/L
Invertebrates (Daphnia magna): EL50(24h): > 1000mg/L

Proprietary Additive 2:
Fish (Danio rerio): LC50(96h) > 100mg/L
Invertebrates (Daphnia magna): EC50 (24h): > 86mg/L
Algae (Desmodesmus subspicatus): EC50 (72h)>100mg/L

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Data for Impact Modifier	Fish LC50 Rainbow Trout > 1000 mg/l, 96 hr
Persistence and Biodegradability	N/D
Bioaccumulative Potential	To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.
Mobility In Soil	N/D

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Recommendations

Waste Disposal Methods: In accordance with existing federal/state/local environmental regulations.

Empty Containers: Empty container may contain product residue; follow SDS and label warnings even after containers have been emptied.

SECTION 14. TRANSPORT INFORMATION

Land (DOT)	Not regulated for Land Transport
Sea (IMDG)	Not regulator for Sea Transport
Air (IATA)	Not regulated for Air Transport

SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation specific for the substance or mixture

Authorization and / or restrictions on use: ND

SECTION 16. OTHER INFORMATION

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N/D = Not determined, N/A = Not applicable

Key to the H-Codes contained in Section 2 or 3 of this document (for information only)

H316: Causes mild skin irritation

H320: Causes eye irritation. Particles may cause mechanical irritation.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance to safe handling, use, processing storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.